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HYPODERMIC INJECTION OF MEDICINES, WITH A CASE.

[Read before the Suffolk District Medical Society, and communicated for the Boston Med. and Surg. Journal.]

BY ROBERT WHITE, M.D., BOSTON.

I HAVE recently been favored with an opportunity of witnessing the wonderful effects of medicine upon the human body by injection into the cellular tissue, the results of which I beg to communicate to the members of this Society, and through them to the profession generally. And I invite you all to unite in a candid investigation of the matter, and to adopt or reject it in your practice, only after a careful experimentation, which you can easily perform upon any patient suffering severe pain, or upon any of the inferior animals, the cat or dog for instance. The principle cannot be patented, and the instruments never shall.

So far back as 1843, Dr. Wood, of Edinburgh, used narcotic injections into the cellular tissue, in neuralgia, by means of a very ingenious instrument constructed by Mr. Ferguson. I believe to Dr. Wood is due the credit of first introducing to the notice of the profession this particular *modus applicandi* of medicine; the *modus operandi* was known long prior to Dr. Wood. The principle is illustrated by the poisoned arrow of the Indian, or the bite of the rattlesnake. The introduction of vaccine virus beneath the cuticle is another example familiar to every one; in fact, all contagious diseases are produced by this same principle. Thus you will perceive that this *modus operandi* of medicine is pregnant with evil as well as good.

So far as I have been able to investigate the matter, I am of opinion that this new method will supersede many of the older and slower modes of procedure in therapeutics. I am sanguine enough to believe and to predict that it will produce as great a revolution in the healing art, as the electric telegraph has done in the slow-coach system of our ancestors.

Suppose, when called to a patient attacked with violent colic, instead of giving calomel and opium every hour, or laudanum every half hour, till he be relieved, with sinapisms externally, you can, by puncturing the skin with a lancet, and injecting a little

VOL. LXI.—No. 15

fluid, give almost instantaneous relief, what a blessing will it prove to mankind! Now I see no reason to doubt that injecting a solution of morphia into the cellular tissue of the arm, with a dose of castor oil given internally, will relieve colic as effectually in ten or twenty minutes, as our present system of practice effects in two, three, four or more hours, with much less trouble to the physician, and decidedly less suffering to the patient.

Again, in the passage of biliary or renal calculi I apprehend this method will afford more decided relief than any other means we can employ.

Then, again, there is another class of cases, where gastric irritation exists, either idiopathic or symptomatic; when the stomach will not retain medicine, or when it cannot be introduced into the stomach. The efficacy of this *methodus medendi* will then be incalculable.

The painful and decidedly cruel endermic mode of applying medicines may be entirely superseded, and the pain of a blistered surface completely avoided.

Physicians may yet discover by this means, and by this mode apply, anti-tetanic and anti-hydrophobic remedies, and no more speedy or effectual means could be employed of pursuing, neutralizing and destroying the bite or sting of poisonous insects or reptiles.

Medicines act upon the system principally by absorption, and our prescriptions for the cure of diseases are mostly founded upon that theory. How much medicines are altered and decomposed by the process of digestion before they reach the villi of the lacteals, no one can tell; but by this new method the medicine unchanged is subjected directly to the process of absorption, and if our theory with regard to the action of medicine be correct, we are more likely to obtain certain and successful results by this method, when admissible, than by any other.

CASE.—Oct. 5th I was requested by Dr. M. to see a patient of his, affected with delirium tremens. This was his fourth attack, from the third of which, about a year ago, he had with difficulty recovered. He had slept none since the 1st, and had been under medical treatment since the 3d, previous to which he had taken a bottle of fluid extract of valerian, of his own accord, without benefit.

On the 3d, he sent for his family physician, who prescribed tincture of opium and fluid extract of valerian. Half an ounce of the former and two ounces of the latter were given in twenty-four hours, without producing quiet, but rather the reverse. Chloric ether was also tried, from the effects of which he would sleep a few minutes, then wake up as bad as ever. Strong hop-tea was then administered freely, with an occasional dose of McMunn's elixir, and a bladder of ice kept constantly applied to the head.

When I visited him, on the morning of the 5th, he was talking

incessantly, making frequent attempts to get out of bed, fidgeting and pulling at the bedclothes, with subsultus tendinum, pulse 104, pupils contracted, head very hot, skin dry, tongue moist and coated with a white fur. He complained of dryness of the throat. Bowels regular. Knew all his attendants, and could with difficulty be kept in bed. I advised a suspension of the opium, and to continue the hop tea and valerian, and ordered a solution of bicarb. potass., to relieve an occasional attack of vomiting. Leeches to the temples. Ice to be continued to the head, and plenty of diluent drinks.

The patient continued in nearly the same condition, and under the same treatment, only varied according to circumstances, until the morning of the 8th, when he appeared evidently sinking: pulse very weak and slow, extremities cold, cold clammy perspiration exuding all over him, vocalization constant, muttering and indistinct. He did not recognize his attendants. As a last resource, I ordered a glass of hot brandy punch, and determined to try the effects of injecting morphia into the cellular tissue. I desired his family physician to procure a small glass syringe and a little morphia, which he immediately did. When he returned, he administered the punch to the patient, which was slowly but eagerly swallowed. In the mean time, I dissolved a grain of the morphia (muriate) in about half a teaspoonful of cold water, then made a puncture with a lancet into the cellular tissue of the left arm, and injected as much of the solution as I could with my very imperfect apparatus. Yet, notwithstanding all disadvantages, the experiment was perfectly successful. Some said it was the punch which made him sleep; at any rate, in twenty minutes afterward he was calm, his eyes closed, something was evidently composing him, and I was well pleased to learn, when I visited him at 2, P.M., that he had slept soundly for two hours and a half. He had evidently rallied, but the delirious symptoms continued, though much abated. I had determined to repeat the injection should the first have no effect; but he was so much better that I hoped he would sleep more, and I deferred it until the evening. I then left him, but in an hour after was sent for. The messenger said he had grown violent, and could not be kept in bed. I visited him directly; he was out of bed, partly dressed, poking about the room, tossing everything upside down. I dissolved one grain of sulphate of morphia, which I had brought with me, in about the same quantity of water as before, and repeated the punch, which was vomited immediately. Now, said I, there will be no blame to the punch. I then requested him to sit down on the bedside, and made a puncture in the other arm, large enough to admit the point of the syringe, and with the small blade of a penknife extended the puncture beneath the skin, about three eighths of an inch, without enlarging the orifice. I then introduced the syringe as far as I could, elevated the skin, and withdrew the syringe a little, so as to free the point from the cellular

tissue, then pushed the piston home. The solution whizzed in, forming an areola around the puncture, about the size of half a dollar; withdrawing the syringe, I pressed a moment on the puncture, and then applied a little adhesive plaster, to prevent the solution oozing out.

In a few minutes afterward, he started off round the room again, tossing over and examining everything, then went to the window and looked out, making remarks on the weather. The morphia was evidently operating. In a short time his eyelids began to close, and his head grow heavy. I suggested the propriety of his going to bed, to which he immediately assented, and sat down on the bedside, put off his pantaloons with a little assistance, lay down as docile as a child, and in ten minutes was sound asleep. I saw him again at 11, P.M. He was awake, but had slept upward of five hours. Substus tendinum much abated. He felt comfortable, but drowsy and thirsty, and when left alone would go right off to sleep. When I visited him again, next morning, he was wide awake, after sleeping nearly the whole night, perfectly sensible, the substus tendinum completely gone, he had no headache, bowels had been opened during the night, no unnatural thirst, and he was completely convalescent. He dozed a good deal during the day, and slept naturally the succeeding night. He continued to improve rapidly, and in three days he was up and dressed, arranging his affairs.

I have injected since in three other cases, and have used a vaccinating lancet and a small glass syringe, with the piston well packed, and have found them to answer admirably every desired object in the operation.

NEW YORK OPHTHALMIC SCHOOL.

[Communicated for the Boston Medical and Surgical Journal.]

THE Introductory to a Course of Lectures on diseases of, and operations upon the eye, was delivered by Mark Stephenson, M.D., the senior surgeon of the N. Y. Ophthalmic Hospital, on the 22d ult., at the Institution, No. 6 Stuyvesant Place. There was a full attendance of medical pupils from all sections of the country. His subject was, "The pains and pleasures consequent upon professional life—the Eye, its structure, diseases, &c." He observed:—

Some of you, gentlemen, may have chosen the profession of medicine as the business of your future lives, with the idea that it is the road to wealth, as well as honor. If so, the sooner you are apprised of your error, the better. He trusted, however, that they had entered its ranks with purer and holier purposes.

Ingratitude and misrepresentation, he said, would often arise from sources whence they least expected it, but in cases of this

kind he directed them to imitate the immortal *Boerhaave*, who refused to notice slander and abuse—"they are sparks," says he, "which will go out of themselves, if you do not blow them;" and the surest remedy against scandal, is to live it down by perseverance in well doing.

And still another, and not the least source of disquietude, would be the rivalry and jealousy of professional brethren; but he rejoiced to inform them that a better feeling now manifested itself, which had been increasing ever since the organization of the American Medical Association. Previous to its formation, the interests of the profession were of a local and sectional character. Our brethren of the Bay State, he said, believing that all light, whether of a natural, spiritual, or intellectual character, emanated from the East, claimed for themselves the honor of being the "literati" in the profession; while those of the Empire City unhesitatingly asserted that they were the "*mirabile mundi*" in medical and surgical attainments. The learned doctors of the beautiful city of angles and right angles, inscribed upon their banner, "*ne plus ultra*;"—while those of the Monumental City (a city set upon a hill), were entitled to the application of "*Excelcissimus*." The South, believing that a great amount of caloric was necessary to cerebral development, congratulated themselves in possessing the "*summum bonum*" of all excellency in the healing art. The West, the mighty West, conceived the idea that all enterprise was concentrated there, and that they were the "*sine qua nons*" in medical science. Now our brethren from the East and the West, from the North and the South, in their annual convocations meet as brethren beloved, each adopting professionally the motto of our glorious republic, "*E pluribus unum*," each endeavoring to outvie the other in hospitality and good cheer.

Among the many redeeming features and bright spots which would relieve the gloom attendant upon the practice of their profession, he remarked—there will be occasions, gentlemen, when you will receive the highest gratification and the most exquisite pleasure the human heart is susceptible of enjoying. Think of the joy consequent upon the restoration to health of a beloved mother, an affectionate and indulgent father, an only child, or the giving of sight to the blind, or hearing to the deaf. Another luxury to a well disciplined mind, is the acquisition of knowledge. The more the mind acquires, the more its powers are expanded and rendered capable of adding and still adding to its accumulated treasures.

Dr. S. then spoke of the advantages New York afforded for the study of ophthalmic surgery—stating that it would compare favorably with Vienna, Paris, or any other European city; that the Institution in whose behalf this course of lectures was given, had treated between 7000 and 8000 patients, and given clinical instruction to over three hundred medical pupils and practitioners.

He next expatiated upon the human eye, its wonderful mechan-

ism, delicacy and beauty; its numerous diseases, and the importance of a correct diagnosis. An error here, usually led to an error in practice, which if continued for a single day might end in opacity or rupture of the cornea, occlusion or prolapsus iridis, or staphyloma. The skill requisite in the treatment of these diseases was also alluded to. He exhorted his present class to avail themselves of the clinical advantages to be derived here, and not to be disheartened by difficulties; what others had surmounted, they could surmount; and in this way they would leave behind them an impress for good, or, in other words, *make their mark*.

CYSTIC AND INTESTINAL FISTULA.

[Communicated for the Boston Medical and Surgical Journal.]

MESSRS. EDITORS,—Mr. Wm. A. S., of P., 26 years old, was jammed between two cars at Blackstone, Mass., Sept. 1, 1857. He was a thick, fleshy man, and was caught just above the hip bones, and jammed from side to side, to within eight inches of entirely bringing his sides together. He also broke his arm, in falling across the railroad track as the cars rebounded. He bled largely from his bowels, and had much pain over the left kidney and left ischium, from the outset. The digestive organs generally were very much deranged. He emaciated much, had very little appetite, and what he did eat distressed him at times. There was much pain at the neck of the bladder most of the time after the accident, and also pain in passing his urine. He seemed gradually to improve, up to April, 1858, so that he went about town somewhat, occasionally having sick days from more severe pain than usual in his left side and neck of bladder. From April, his sickness returned oftener, until he was confined to the house all the time. In January, 1859, air began to pass by the urethra, and continued to do so in large quantities, till his death. Some thin fecal matter and fig-seeds also passed from time to time with his urine. The whistling of the wind from the urethra could be heard all over the room, as it made its exit, showing that adhesion had taken place between the bowels and the bladder, or ureter, and ulceration had opened a communication between them.

May 6th, 1859, an abscess broke on his left side, at the lower edge of his ribs. On the 10th, it discharged fecal matter profusely, and continued to do so until his death, showing that adhesion of the bowels to the abdominal parietes had also taken place, with ulceration. In July, 1859, two more abscesses opened near the first, through which fecal matter continued to pass, as from the first one. Each abscess discharged more or less pus from the outset, and one of them quite largely. At the time of his death, October 24th, 1859, the openings in his side were large enough to admit the ends of the fingers; indeed, sometimes he said pieces of

hard faecal matter passed out of them, as large as ever came through the natural passage. After these abscesses opened, his former costiveness increased, so that, from the 9th of August, last, to October 21, he had had no discharge from the anus. During the last three days of his life, a little faecal matter passed the anus involuntarily.

His health, previously to the accident, was good. He seemed to die from pure exhaustion. No *post-mortem* examination could be obtained.

N. L. FOLSOM.

Portsmouth, N. H., November, 1859.

LABOR, WITH THE HYMEN UNBROKEN.

[Communicated for the Boston Medical and Surgical Journal.]

THE patient was 18 years of age, Irish, and had been married ten months. On examination, the hymen was felt to be in a state of cartilaginous hardness, and no aperture could be found by the finger to the vagina. Through the rectum, the enclosed waters were felt slightly protruding into the vagina, with the head entering the superior strait. In two hours the membranes ruptured, and the waters discharged into the vagina, producing a bulging of the hymen outward, not unlike in feeling to the unbroken bag of waters. A slight moisture only was felt on the external parts. A probe was now carried on the end of the finger in search of an orifice to be enlarged by incision, but in vain. A less forcible pressure, however, by the finger point, than had been used, broke through the hymen, it having been apparently thinned and macerated by the progress of labor. The waters gushed forth, and the child soon followed.

The above case is distinguishable from a similar class of cases by the almost complete imperforation of the hymen. These cases bear interest in a medico-legal point of view, showing that sexual congress may be repeated, pregnancy ensue, and continue for the full period, without destruction of the hymen.

Ware, November, 1859.

JOHN YALE.

CASE OF INTUSSUSCEPTION—RECOVERY.

[Communicated for the Boston Medical and Surgical Journal.]

G. L., middle age, farmer, residing in this vicinity, Sept. 28th, having eaten largely of apples, was soon most violently seized with what he calls colic, having for some time been subject to such attacks. His suffering was so great that a neighboring physician, Dr. C., was sent for, and arrived. There was vomiting occasionally, with stoppage of the bowels. Repeated doses of active cathartics were administered, with the hope of forcing an operation,

but without success. Four days after the attack, patient began to vomit faecal matter; this continued for two days. At this time, consultation was had on the case. A large blister was advised and applied to the abdomen, and repetition of pil. cathar. comp., with the addition of croton oil, recommended and immediately given. On the seventh day, I met the attending physician in consultation. We were unanimous in our diagnosis. Opium was now given in repeated doses sufficiently large to bring the patient fully under its effects. A small quantity of hydrarg. sub. mur. was also regularly administered, with a view of increasing the activity of the absorbents in removing any lymph then thrown out about the parts inflamed and strangulated. This treatment was pursued, when, on the fifth day, upon a slight attack of vomiting, the patient had a copious discharge from the bowels, and convalescence followed. In a few days he was about his business. J. F. N.

Waterville, Me., Nov. 4th, 1859.

SURGICAL CASES IN THE HOSPITAL AT MILAN.

[PROF. PAUL F. EVE, of Nashville, Tenn., who has recently returned from a tour in Europe, visited, while there, the places which have been made famous by the events of the late Italian war. The hospital at Milan, in which many of the wounded were received, with some notice of the more interesting cases observed, is thus spoken of in Dr. E.'s correspondence with the *Nashville Journal of Medicine and Surgery*.]

We were fortunate in procuring the services of a sub-officer, who described the particulars of the battle fought at Magenta on the 4th of June. To some soldiers who returned to the railroad station while we were there, he asked, "have you seen any feet to-day?" Upon inquiry what was meant, he replied that even up to the present time, fifty-two days since the attack, owing to the heat and the slight covering of earth, corpses were occasionally exposed.

We arrived at Milan, about twelve miles beyond Magenta, at 2, P.M. Here 17,000 wounded have been received, from Solferino alone. At St. Ambrose there were 1,700 at one time, and 700 still remain. Baron Larrey, son of the old Baron under Napoleon I., to whom Dr. Dunglison kindly gave me a letter, and whom I knew in Paris as a student twenty-five years ago, told us there were twenty-one hospitals in Milan. He gave orders for our reception at every one, but, of course, as we could not see all, we chose the three largest and most interesting.

In the two days spent here we noted the following cases: At St. Ambrose, built in the sixteenth century, the one of greatest interest was that of a soldier shot twice at Milegnano, more than forty days ago. One ball fractured the third rib, perforating the

right lung and traversing the thorax. A second one fractured the surgical neck of the humerus on the same side. No union having taken place, it was determined to exsect the head of the bone. With a double-edged knife the track of the ball was followed, and by a crescentic incision from above downward, and from within outward, a large flap was made of the deltoid muscle and integuments. The head of the bone was then taken out of the glenoid cavity, and the bone below the fracture sawed off. The case was doing well, and the surgeon in charge was quite proud of it.

At the great civil hospital, with three thousand beds, we noticed four cases of compound fracture of the thigh, under Surgeon Michili. One had a ball through the upper third of the femur, which was badly shattered. The patient was brought in from Magenta, and this is now the fifty-sixth day since he was wounded. To-day the opening made by the entrance of the ball was enlarged, and gave exit to a large quantity of pus. The limb is in splints. No union of bone. Many spiculæ have been removed. His recovery is doubtful. 2d case.—The ball also fractured the upper third of the femur, and has not yet been found. Incisions have been made, and there is now free suppuration. Result of case also doubtful. The patient complains most of his heel, where there is a large ulceration which has bled occasionally. Was wounded at Magenta. 3d case.—Wounded by a ball through the lower third of the thigh, involving the knee-joint. Has diarrhœa, with free suppuration about the injured parts. Have little expectation of his recovery. 4th case.—The ball traversed the upper part of the left thigh, at Magenta. Is doing well, and there is little doubt of his recovery.

Saw also here a patient coming from Solferino, having a ball to strike the olecranon, and pass out at the inner side of the limb, opening the joint. Doing well, with prospects of ankylosis. A ball traversed one side of the spine without injuring it, and has been lost on the other side. A ball struck the spine of the tibia in another case, and was divided by it, each portion coming out in the calf of the leg. A soldier received a ball at Solferino, to the left of the median line of the upper lip on the left side; it came out in the parotid region. With the exception of a salivary fistula, he is doing well. Another at Milegnano had a ball to traverse the left pleural cavity and come out at the inferior angle of the shoulder blade. He had no hæmoptysis, but there is some suppurative action going on near the wound of exit. This was freely laid open to-day. Another is here with a wound made by a ball passing under the outer third of the right clavicle. The right upper extremity of this side is partially paralyzed, with irregular nervous paroxysms, for which nothing as yet has afforded entire relief. At Solferino, a soldier was struck upon the right zygomatic arch, the globe of the right eye ruptured, and the nose at its base perforated, the ball escaping just under the left eye. Is do-

ing well. Found here also two cases of fractured jaws. The one in the inferior was made by a ball striking the middle of the inferior lip, fracturing the bone, and making its exit near the mastoid process of the right side. This occurred at Magenta. After removing spiculæ of bone, there has resulted good union of the inferior maxillary. In the second case the ball passed through the entire upper jaw, from side to side, including the hard palate. The large opening between the nose and mouth is now closed by a gold plate and artificial teeth. For a ball passing through the ham and injuring an artery, with subsequent formation of an aneurism, the femoral artery was tied at the usual point of selection, on the 20th of July. Apparently doing well. Observed here, too, a case of tetanus. The patient was shot at Solferino, by which the tibia was fractured. This was on the 24th of June. The attack of lock-jaw commenced fifteen days ago, and the surgeon in charge ascribes the relief to *muriate of baryta*, given, I think he said, in 6 grains to 20 or 30, three times a day. By this remedy he told me he had cured four cases. The tetanus is pretty much confined to the side wounded. He has, moreover, violent contractions of the leg upon the thigh, and then chloroform is inhaled. The patient is able to take nourishment freely. The last in this hospital which I recorded the notice of, was that of a Captain, with a thigh greatly shattered by a ball at Milegnano, on the 8th or 12th of June. The surgeons proposed at once to amputate the limb by candle light, to which he objected, when he was brought to Milan, and seventeen hours after being wounded the operation was performed in the middle third of the femur. He is now nearly ready to return to la belle France. These four last cases were under the care of medico-chirurgo Gustavo Tassani, of Milan.

At the Hospital of St. Prassédé I collected the following facts: A patient, wounded at Magenta, had a severe hemorrhage from apparently one of the articular arteries about the knee, 31 days after being wounded. There is now great infiltration in this extremity. I much apprehend here loss of limb or life. The ball passed through the knee-joint. A ball entered left commissure of mouth, fractured the jaw near the angle of the same side, and passing out, went through the neck above the clavicle, and out near the scapulæ. Patient is doing well. At Solferino the elbow-joint of a soldier was traversed by a ball, and now, notwithstanding every attention, it has been agreed that amputation must be performed. In another, the same ball passed through both calves of the legs, making four wounds without fracture. The first struck has healed soonest, but in the last one wounded, the union has been interrupted by foreign substance in it, for yesterday a piece of clothing was removed from it. A wrist-joint, perforated through and through, antero-posterior, has been saved, the patient being now nearly well. It is true the bones of the carpus may yet inflame and ulcerate.

CAN THE GARDEN SLUG LIVE IN THE HUMAN STOMACH?

BY DAVID DICKMAN, ESQ., M.R.C.S.

SARAH ANN C——, aged 12 years, had, for the last two months, complained of feeling sick at times, particularly after meals. On the fifth of August last, she vomited up a large garden slug, which was alive and very active. On the 6th, she brought up two, both alive; and on the night of the 7th, she was seized with violent vomiting and relaxation of the bowels, and threw up five more, of various sizes, the smallest two inches long, and all alive.

On the morning of the 8th, when I first saw her, vomiting and purging had ceased, and she complained of great pain in the left region of the stomach, and headache. I gave her opiate powders, which relieved her in every way till the afternoon of the 9th, when she felt something crawling up her throat. This sensation brought on the most violent efforts of vomiting to expel what she felt at the upper part of her throat, and she frequently introduced her fingers to seize what she felt, but did not succeed. I happened to call, just when all this suffering was beginning to subside, at which time the sensation was felt lower—about half way between the mouth and the stomach. As expulsion by vomiting seemed hopeless, it occurred to me that ammonia and camphor might destroy the creature, and that the digestive powers of the stomach would do the rest when the animal was dead. The dose was repeated every four hours for two days, and afterward three times a day for two days more, with entire success. An aperient powder was given every night. After the first dose of the ammonia and camphor, all sensation of movement ceased; and she now appears as well as ever she was.

During the summer she had gone frequently into the garden and eaten freely of its produce, especially of lettuces, of which she was very fond. It appears to me that a family of very young slugs had been feeding on the lettuces, which the child had swallowed with very little mastication, and the gastric juice not being strong enough to act on them when alive, they fed and grew in their new habitation to their usual dimensions. During the time they must have been in the stomach, she was fonder than ever of vegetables and fruits, and would put aside the meat on her plate, and eat the vegetables only.

The three slugs that came up first were not preserved; but, at my request, the five others have been kept alive, and fed on vegetables, which they preferred being cooked, having at first refused to eat them raw. They are now fed on raw vegetables.

Another circumstance connected with my interesting patient is, that she was born without the left hand. During pregnancy the mother was frightened by a porcupine that an organ boy had in the street; and an impression ever after remained on her mind that something would not be right with the child's hand.—*London Lancet.*

Selections from Medical Journals.

REMOVAL OF UNDESCENDED TESTIS.—The patient was a married man, father of two children, 31 years of age, and under the care of Mr. Curling. The left testicle occupied the usual position. The right had never passed the inguinal ring. It presented a softish swelling, of the size of a pigeon's egg. The patient had had pain and occasional swelling in the part, and also pain in the loins for two years. The testicle was carefully removed, and was found to be atrophied. A microscopical examination showed that it contained no spermatozoa. Mr. Curling remarked that the testis under such circumstances frequently became atrophied and functionally useless. He had not found that the opposite testicle became enlarged, to compensate for the atrophied organ.—*Lancet*, Oct. 15.

OVARIAN GESTATION.—The patient, aged 25, never previously pregnant, began to suffer in March from severe abdominal pain. Above the ramus of the pubis was found a well-defined enlargement, very tender to the touch. On May 14th, Dr. Davis first saw her, and found a large tumor extending to the umbilicus, and occupying chiefly the left iliac region, fluctuating, and resembling an ovarian tumor. Mammary symptoms of pregnancy, somewhat undecided, and of doubtful import were present; cervix uteri high up, inclined forward, os not having the cushion-like fullness of early pregnancy; body of the uterus a little enlarged; length of cavity, three inches and a half. Behind the cervix was a soft tumor, evidently continuous with that felt above. The diagnosis on this examination was, that the tumor was of extra-uterine character, and that within the cyst were foetal contents. A canula and trocar were introduced into the tumor, behind the cervix, and a quantity of fluid evacuated; but the patient refused to allow of further projected operative measures, and died on July 9th. The left ovary was found developed into a cyst, situated between the uterus and the rectum; the interior of the cyst was sloughy and putrescent; it contained a decayed foetus, and remains of placenta, all of a dark color.—*Medical Times and Gazette*, Oct. 15.

CHLOROFORM AND ACONITE IN NEURALGIA.—Dr. Guéneau de Mussy has for several years prescribed with great success a mixture of chloroform and tincture of aconite for neuralgia. He employs the following proportions: 2 parts of spirit of wine, or Cologne water, 1 of chloroform and 1 of tincture of aconite. This is to be rubbed gently on the gum for a few minutes, with the finger, covered with lint, or with thick soft linen. The infra-orbital branch being the most commonly affected, it is chiefly in neuralgia of this part that the application has been successful, but by no means exclusively so; it answers very well for pain in the lower branch, and Dr. Guéneau de Mussy has observed some very severe cases of supra-orbital neuralgia, in which the same application has been attended with an equally satisfactory result.—*Ibid.*, April 2.

OVARIAN CYST CURED BY INJECTION WITH IODINE.—In the *Lancet* for Sept. 10th, is the report of an interesting case of ovarian dropsy, treated by Dr. C. BLACK. The patient was a young lady of 20, who

had suffered from the disease for more than two years. The abdomen was so distended that the breathing became oppressed, the digestive function impaired, the nutrition of the body defective, and the nervous system irritable. The cyst sprang from the right ovary, and was probably unilocular, and unadherent to the neighboring parts. A large-sized trocar was pushed into the sac as far as possible, and its point directed slightly upward, in order that the sac might, during its collapse, be hooked upon the point of the canula, and thus ensure the introduction of the injection into its cavity. Fifteen pints of a clear, pale, straw-colored fluid were evacuated, immediately after which twelve ounces of the Edinburgh tincture of iodine were thrown in, and retained exactly twenty minutes, when the whole, or nearly the whole, of it was withdrawn. Fifteen minutes after the injection had been thrown into the sac, a severe paroxysm of hysteria supervened, during which the operation was terminated, and the patient put to bed. The consequences were vomiting, pain and tenderness of the abdomen, and rapid pulse. These symptoms gradually subsided, and she was convalescent on the ninth day. On the twenty-ninth day, she was quite well, and no trace of the cyst could be discovered on the most careful manipulation. A year afterward she continued in perfect health.

EXTENSIVE AND UNOBSERVED DISEASE OF THE COLON.—A man, æt. 22, entered the Pennsylvania Hospital, under the care of Dr. J. Forsyth Meigs, suffering from vomiting, pain in the epigastric region, an enlarged spleen, but no enlargement of the liver, slight diarrhœa, a smooth and glazed tongue, and no fever. He had been in Cuba, where he was sick with fever of a severe form, with delirium, abdominal pain, and great debility. On his return to this country he entered the hospital for diarrhœa, and was discharged, relieved, the case being looked upon as one of anemia, resulting from chronic intermittent fever. A short time afterward, having vomited a large quantity of blood, he re-entered the hospital with the present symptoms. The most prominent of these were vomiting, gradual but steady loss of strength and flesh, but little pain, and diarrhœa. The only pain he suffered was in the epigastric region, and this was the only part of the abdomen tender upon pressure. The diarrhœa increased very much toward the last. There was no tenesmus, and no dysenteric stools. The dejections were rather large, thin, consisting of flocculent, fœculent materials, of a brownish color, floating in a thin, watery liquid, but contained no blood, mucus or pus. There was no suspicion of dysenteric inflammation of the colon. The lungs were healthy. The large hæmatemesis, the severity of the dyspeptic symptoms, and the frequency and urgency of the vomiting, pointed to disease in the upper part of the alimentary canal. The diarrhœa remained to be accounted for. It was supposed, on the whole, that the condition might be one of ulcer of the stomach; ulcer of the duodenum was also suggested, but the diagnosis was quite uncertain.

The *post-mortem* examination showed the immediate cause of the patient's death to be an advanced stage of inflammation and ulceration of the large intestine, particularly in the cœcum, the descending colon and the rectum. The ulcerations were deep, with projections of the mucous membrane between, looking like the polypoid formations, as described by Habershon.

Dr. Meigs remarks: "The great error in making the diagnosis was in not having attended sufficiently to the history of the patient. Had I borne in mind properly the fact, that the patient contracted his illness in a tropical climate, and had had more or less diarrhoea from the beginning, I should have been led, by a simple reflection upon the frequency of diarrhoea from colitic disease in those climates, to the true seat of the bowel disorder, and perhaps a still more careful examination of the stools might have shown the presence of shreds, or patches, of false membrane, or of portions of purulent matter occupying the lower part of the vase. But, gentlemen, like Columbus's egg, it is very easy to see all this after the trick is shown."—*Medical and Surgical Reporter*, October 29.

CURE OF SPINA BIFIDA BY APPLICATION OF COLLODION.—In a late number we alluded to Dr. Brainard's success in the treatment of spina bifida by iodine injections. A case which was cured by the application of collodion is recorded in the *Journal für Kinderkrankheiten*. The child was seven weeks old, and the tumor was of the size of a small orange. When the fluid was pressed into the spine, the patient had pain, and the muscles of the face were convulsed. The tumor was covered with collodion, at first mixed with an equal quantity of castor oil, afterward with a mixture of 3 parts of collodion and 1 of oil, and finally with pure collodion. The tumor disappeared at the end of three weeks. The patient was treated by Dr. Behrend. "It should be added," says the reporter, "that the child having presented cerebral symptoms, was also treated with calomel, to which, perhaps, a share of the cure is due." We should be inclined to doubt this assertion. In our opinion the calomel was at least nugatory, if not injurious to the progress of recovery.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, NOVEMBER 10, 1859.

MEDICAL EDUCATION.—Among the subjects which have held a prominent place in the transactions of the American Medical Association is that of *medical education*, and if no definite results have as yet been obtained from the efforts which have been made in its behalf, it is gratifying to see that its great importance is fully recognized by the Association, and that the failure to recommend some uniform standard of medical instruction is more owing to the inherent difficulties of the subject, than to any want of interest or zeal on the part of members. To show this, it is only necessary to refer to the printed volumes of the Transactions of the Association; and, as many of our readers may not be aware of the efforts which have been made in this direction, we propose to give a condensed statement of what has been done, both by the Association and by the two medical conventions which took place before its organization in 1847.

In the first volume of the Transactions are the Report and Resolutions of the first Committee on Medical Education, consisting of Drs.

Haxall, Cullen, Patterson, A. Flint, Perkins, Wing and Norris. The report embraces 13 pages, and concludes with thirteen resolutions, recommending, among other things, six months courses of lectures, three years' study, seven professors to each college: dissections, clinics and hospital attendance to be required, and colleges refusing to comply with these requirements, not to be admitted to fellowship. These resolutions were adopted. In the same volume is the Report of a committee on preliminary education, occupying four pages, and containing three resolutions. Preceptors are to require certificates of good moral character, of a good English education, and of a proper knowledge of natural philosophy, of the elements of mathematics, of Latin and Greek.

In Vol. II., page 257, we find a report of 123 pages, of another committee on medical education, of which Dr. C. F. Stewart was chairman. It consists of five sections, and two addendas. Medical education in this country is compared with that abroad. The requirements of the U. S. Army and Navy are stated. The legal requirements in the several States are mentioned, and also sundry other matters. The committee approve of boards of examiners, and of the conferring of two degrees. Appended to the report are eleven resolutions, recommending, among other things, that college clinics should not be allowed as a substitute for hospital instruction; that examinations for degrees be public: that pharmacy should be a required study: and that boards of examiners should be appointed for each State. The report and resolutions were referred to a committee, who reported seven resolutions, together with an eighth, moved by Dr. E. T. Bond, Jun., recommending private medical institutions, and dispensary practice. In these resolutions the Association reiterates its approval of the resolutions in reference to medical education adopted in 1847: college clinics are not to be substituted for hospital instruction; six months hospital attendance to be required for graduation; a meeting of teachers to be held before the next annual meeting, to present a plan for elevating the standard of medical education. Appended to the report are two papers; the first, from the medical faculty of Harvard University, in favor of a four months course of lectures, and signed by John Ware, Jacob Bigelow and O. W. Holmes; the other, consisting of facts and arguments in favor of a six months course, and signed by Samuel Jackson, John S. Atlee and Alfred Stillé, a committee appointed to answer the above.

In Vol. III., page 145, we find another report on this subject, chiefly confined to the discussion of three points—preliminary education, the character of professional instruction, and the question whether the Association shall prescribe terms of admission into the colleges. Schools of pharmacy are recommended. The report says it is doubtful whether any uniform plan of education or admission to the profession can be established. This report gave great dissatisfaction, and led to long-continued debate. Resolutions were passed, re-affirming the former action of the Association, and opposing the sentiments of the report. The next volume of the Transactions contains a report of 32 pages on the same subject, by a committee of which Dr. W. Hooker was chairman. Appended to it were seven resolutions, which may be briefly stated as follows: abuses demand consideration; good results from discussion; reform necessary in public sentiment, both professional and lay; our own organizations the proper channel for the

profession : the Association has confidence in judicious efforts ; former action re-affirmed ; a steady onward progress recommended. The report was accepted, the resolutions concurred in, and all State societies were recommended to republish it for general distribution.

Vol. V. contains no report on medical education. In Vol. VI. is a report by Dr. Pitcher and others, in which a knowledge of the elements of medical science are recommended to be acquired before attendance at hospital ; and the advantages of hospital and private teaching are urged. The President (Dr. Wellford) recommends State boards of examination, and legislative action is invoked, to pass a general law of uniformity.

Vol. VII. contains a report of 28 pages, with six resolutions, the principal points of which are, daily *office examinations*, clinical instruction, an enlarged curriculum, and a uniform system of examining candidates for degrees.

Vol. VIII. contains no report. In Vol. IX. is a short report, recommending the preparation of an elementary work on anatomy, physiology and pathology, for the use of students before attending lectures.

In Volume X. is the report of a discussion on the subject of medical education, which was followed by the appointment of a committee of five, unconnected with any school, to devise a system of medical education, and to report at the next annual meeting. The report of this committee is to be found on page 249, Vol. XI. It recommends primary schools, with daily office instruction, seven professorships, a lecture term of six months, liberal primary education, &c., and proposes that a delegation from colleges should meet in convention at Louisville, at the annual meeting in 1859.

The above nine reports occupy 239 octavo pages of the Transactions ; and over fifty members have been appointed on educational committees. Where so strong an interest is manifested, we cannot believe that the difficulties in the way of adopting some uniform system for recommendation are too great to be overcome. It is true, the Association cannot, perhaps, enforce any such system, but its influence is yearly becoming greater, and its recommendation may be almost equivalent to a law. We do not mean that the exact course of study is to be prescribed, but certain conditions should be, and probably will be insisted upon, such as a uniform standard of preliminary education, a three years' course of study, with attendance on two full courses of lectures in separate years, sufficient clinical attendance, regular examinations or recitations, &c. &c. ; and such schools as do not conform to these recommendations will be regarded in the same light as an individual practitioner who violates the code of ethics adopted by the Association.

At an informal meeting of medical gentlemen, held in this city, last week, the subject of medical education was discussed, and a free interchange of opinion took place. About fifty members of the profession were present, including Dr. Crosby, of Dartmouth College, Hanover, the President of the Teachers' Convention ; Dr. Hooker, the Dean of the Medical Faculty of Yale College ; and Dr. Blatchford, Chairman of the Committee of Conference, appointed by the Association to meet the Committee of the Teachers' Convention, before the next annual meeting.* A large number of letters which have been

* These Committees will meet at New York, on the Friday (June 1st,) preceding the next annual meeting of the Association.

received by the Chairman of the Convention Committee, from various gentlemen, on the subject of medical education, were read, expressing various opinions, and offering different plans, which were freely discussed by those present. On one point, the necessity for a full three years' course of study under the direction of a regular practitioner, as a pre-requisite to graduation, all were agreed, and the value of a uniform system of registration to secure proof of this. There was some difference of opinion at this meeting upon matters of detail. The chief topic of discussion was the appointment by State Societies of delegates to attend the examinations made by professors, and also the impracticability of taking from medical schools the duties of examining and recommending candidates for degrees. One obvious reason for this is to be found in the fact that the State governments are the sources of the power of conferring the degrees, and have intrusted it to boards appointed by themselves, to whom the professors recommend candidates. Harvard University has had, for more than two hundred years, the power of conferring the degree of Doctor in Medicine. The corporation, composed of seven persons, of whom only one member at the present time is a physician, nominate the professors. The board of overseers, composed of thirty-seven, the Governor and Lieutenant Governor of the State, the President of the Senate and Speaker of the House of Representatives, being ex-officio members of this board, confirm the nomination, and these two boards confer degrees, voting on those recommended by the Medical Faculty. A committee of this board, composed of physicians, visits the medical school every year, and receives from every professor a report of the instruction given in his department. The professors of Yale and of Dartmouth Colleges explained to the meeting the modes of influence and supervision exercised by the profession and laity in their respective schools. The advantages of the plan were urged by gentlemen connected with schools, where it had long been in successful operation. At Hanover (Dartmouth College), two examinations are appointed by the New Hampshire State Society, who are paid by the faculty, at the rate of one dollar for each student. The delegates may examine, if they please, and they are always consulted when there is any difference of opinion as to the merits of a candidate, but they have no vote; they are present by courtesy, extended by the College to the State Society. A similar system is adopted successfully at Yale College.

The difficulties in the way of carrying out this system in colleges which graduate a large number of students, are obvious. In some of the schools in Philadelphia, for example, two or three hundred are graduated at a time, and it is customary for each candidate to call on the professors separately, the examination sometimes lasting for weeks. Here it would be impossible to establish a supervision by a board of delegates. It is true the method of examination might be altered; a much larger number of students is examined at Harvard College, at the close of each term, under the supervision of boards of examiners, but these boards are composed of some two hundred persons, arranged in sixteen committees. There can be no doubt that the thing is practicable, if the wants of the community demand it, although it may be for the interest of certain schools to resist such an innovation. We are inclined to think that the system of examiners appointed by State Societies, while it may answer well in certain schools, is ill adapted for others. The standard of education is regulated, to a

considerable degree, by the requirements of the community. Those whose field of labor is to be among a sparse population, with limited notions about medical attainments, and moderate ability for remuneration, will seek a school where they can be graduated on the easiest terms. On the contrary, a physician who is to practise in a thickly settled community, where the standard of education is high, and the competition great, will find it an advantage to have graduated at a school in which the examinations are thorough, and whose degrees are evidence of high qualifications for practice.

We regret that our limits will not allow us to report in detail the remarks, both on this subject and on others connected with medical education, which were made by various gentlemen present at the meeting referred to. We can only say, that the fullest appreciation of the importance of the subject of medical education was manifested. We have no doubt that the Teachers' Convention will be able to recommend, at least, some general plan, which shall obtain the endorsement of the American Medical Association, and of the profession generally, and which public sentiment will compel all schools to adopt. There certainly can be no doubt that the number of imperfectly educated and incompetent doctors of medicine, has been largely on the increase within a few years. The records of examinations made by the navy and army medical boards fully sustain such an assertion.

Two circulars sent to the members of the two committees are appended, that our readers may know the precise points which will be before these committees at their meeting on Friday, June 1st.

Boston, October, 1859.

DEAR SIR,—A Committee was appointed at the meeting of the Convention of the Medical Schools of the United States, held in Louisville, Ky., on Monday, the second day of May, 1859, to consider the matters brought before the Convention, so as to propose a definite course of action at the adjourned meeting of the Convention to be held in New Haven, Ct., on Monday, the fourth day of June, Anno Domini 1860.

At a meeting of this Committee, held in Louisville, soon after their appointment, it was unanimously agreed upon to propose the adoption, by the Convention of Medical Schools, of a rule, requiring from every candidate for the degree of Doctor in Medicine, certificates of the study of Medicine during a period of at least three full years, under the direction of a regular practitioner of medicine, who shall certify to the same under his own hand, and of attendance on two full courses of lectures at a medical school recognized as regularly organized by this Convention, with an interval of at least seven months between the termination of one course and the commencement of the second.

It was proposed, also, that a resolution be passed, that any school which does not adopt and enforce this rule shall not be allowed to send delegates to the Convention of Medical Schools, nor to the American Medical Association, and that its graduates shall not be recognized as regular practitioners of medicine.

It was thought advisable to recognize the deficiency in preparatory education on the part of many who offer themselves as students of medicine, and that all practitioners of medicine, as well as all professors, should be exhorted to do all in their power to impress upon those wishing to study medicine, the importance and great advantage of intellectual and moral discipline and culture, as well as of a good knowledge of their own mother tongue and of some acquaintance with the Latin language, and with the elementary truths of mathematics and physics.

It has been also suggested to the Committee to propose a mode or plan for the enrolment and registration of students, to be recommended for general adoption. Will you be good enough to furnish the Committee with an account of what is done in your School in this respect, and generally to make any suggestions to them of matters which you think it well to bring before the Convention.

Troy, 26th September, 1859.

MY DEAR DOCTOR,—You doubtless know of your appointment at the Louisville meeting of the American Medical Association, as one of "a Committee of five, to confer with the Committee of Medical Teachers, and report at the next annual meeting."

As Chairman of that Committee, I should be pleased to learn your views upon the subjects referred to us. They are, I believe—

1st, The Resolutions of the New Jersey State Medical Society, recommending Boards of Censors for each Judicial District.

2d, The Resolutions appended to the last years' report on Education, by Dr. James R. Wood.

3d, Dr. Davis's Resolution concerning Preliminary Education, and

4th, Dr. Sayer's Resolution, recommending the appointment, by each State Medical Society, of Examination Delegates, &c.

It has occurred to me that an *early conference* of the joint Committee is essential to any satisfactory result. Let us meet at some central point and talk over the whole subject in a friendly way, viewing it in all its bearings, and it is possible we might reach a conclusion satisfactory to both Colleges and the Profession at large. A hasty meeting the day before the annual meeting is too contracted to accomplish much.

I remain yours truly,

THOS. W. BLATCHFORD.

WOORARA IN TETANUS.—A case of alleged cure of tetanus by woorara, reported to the Imperial Academy of Medicine at Paris, by M. Chassaignac, subjected the reporter to a pretty severe cross-questioning, by members of the Academy, from which it appears that there is considerable doubt of the effect which the remedy had in curing the disease. The medicine was administered both internally and externally. About two grains were dissolved in four ounces of vehicle, and a teaspoonful given every two hours, the dose being doubled toward the end of the treatment. For the outward application, about four grains were dissolved in the same quantity of fluid, and applied to the wound on pledgets of lint. The poison was not tested upon an animal, and hence there is no certainty that it was of good quality. The case, although presenting some of the characteristics of tetanus, such as trismus and emprosthotonos, was, properly speaking, of a local rather than a general kind, and consequently of a kind in which a spontaneous cure is often observed to take place. In fact, one of the surgeons who saw the case in consultation, called it "chronic, intermittent tetanus." There is no particular reason why woorara should *not* cure tetanus, but this case by no means shows that it can; and even had it been a well-marked example of the disease, and the cure followed soon after the application of the remedy, the case would of itself be insufficient to establish such an inference.

We were amused to see the case referred to in one of our daily papers under the title of "*The Lock-jaw can be cured.*" According to the editor, M. Chassaignac's case "appears to establish conclusively that lock-jaw can be cured by means of the curare poison." Half the physicians in the community will doubtless be asked by their patients all the particulars of the case, and those who do not employ the remedy in future, in cases of tetanus, will doubtless be frequently blamed. It is a weakness of human nature to put faith in specifics, and to judge of the whole from a part. Nothing has so much retarded the progress of therapeutics as these hasty generalizations, and while we cannot blame the community for a natural love of the marvellous, we wish there was less of it in the profession.

THE HARTFORD BAYONET WOUND CASE.—The tone of various communications and private letters recently received, shows that our efforts to do justly by both parties in this case, have failed in satisfying either. Perhaps such a result was unavoidable with the state of feeling which unfortunately exists among those personally connected with the case. The only explanation of our own remarks which we feel called upon to make, and the only additional notice of the case we are inclined to impose upon our readers, ninety-nine hundredths of whom care nothing about it disconnected from its surgical interest, is a word or two respecting the use of the term *authentic* in the first editorial remarks upon the subject. We are not aware that we employed the word in any unusual sense, when we meant to express by it that the *name* of the writer of the article alluded to was known to us, although not appended to it in print. It did not occur to us that we should be understood as necessarily endorsing either the standing of the writer or the truth of his statements—our sole intention being to convey the idea that the article, though published anonymously, was from a source known to the editors.

CHICAGO COLLEGE OF PHARMACY.—The first course of lectures at this institution will begin on Nov. 9th, and continue twenty weeks. Three lectures per week will be delivered. The members of the faculty are Drs. James V. Z. Blaney, Prof. of Chemistry; F. Scammon, Prof. of Pharmacy; and John H. Rauch, Prof. of Materia Medica.

APPOINTMENT AT THE MAINE MEDICAL SCHOOL.—Dr. Israel T. Dana, of Portland, has recently been elected to the chair of Materia Medica in the Maine Medical School, filling the vacancy occasioned by the resignation of Prof. Chas. A. Lee. Dr. Dana is a gentleman of superior attainments in his profession, and his appointment cannot fail to promote the best interests of the School.

VERMONT STATE MEDICAL SOCIETY.—The Semi-Annual Meeting of this Society was held at Montpelier, Oct. 26th. The following officers were elected:—*President*, Dr. E. A. Knight, of Springfield; *Vice President*, Dr. H. H. Palmer, of Ludlow; *Recording Secretary*, Dr. P. Pineo, of Hartford; *Corresponding Secretary*, Dr. C. B. Chandler, of Montpelier; *Librarian and Treasurer*, Dr. Charles Clark, of Montpelier.

HEALTH OF THE CITY.—The most striking feature in the mortality of the past week is the death of *nine* individuals by smallpox. Four of these were males and 5 females; they were all adults except 2, and 4 of them died at Deer Island. The "infantile diseases," affecting children under 5 days old, caused 8 deaths, all males. Of course several distinct affections are included under this head. There were 5 deaths from "debility," all the subjects being over 70, except one of 57. The number of females (12) who died from consumption was twice that of males. The total number of deaths for the corresponding week of 1858 was 58, of which 16 were from consumption, 7 from pneumonia, 0 from smallpox, 6 from infantile diseases, and 2 from debility.

COMMUNICATIONS.—Disease of the Trachea, treated by Inhalation.—Bronchophony.

Books and Pamphlets Received.—Lectures on Surgical Pathology, delivered at the Royal College of Surgeons of England. By James Paget, F.R.S., &c. Second American Edition.—Humboldt's Life and Character. An Address by Alfred Stillé, M.D.—Transactions of the Medical Society of the State of Pennsylvania.—Description of a Deformed Fragmentary Human Skull found in an ancient quarry-cave at Jerusalem. By J. Aitken Meigs, M.D.—Minutes of the Tenth Annual Meeting of the Medical Society of the State of North Carolina.

MARRIED.—In this city, 1st inst., C. Ellery Stedman, M.D., of Dorchester, to Miss Edith E., daughter of the late Hon. Isaac Parker, of Boston.

Deaths in Boston for the week ending Saturday noon, November 5th, 78. Males, 35—Females, 43.—Apoplexy, 1—Inflammation of the bowels, 1—congestion of the brain, 1—burns, 1—cancer, 2—consumption, 16—cholera infantum, 1—croup, 2—diarrhea, 1—dropsy, 1—dropsy in the head, 2—debility, 6—infantile diseases, 8—erysipelas, 1—scarlet fever, 2—typhoid fever, 3—gangrene of the lungs, 1—disease of the hip, 1—hemorrhage of the lungs, 2—Inflammation of the lungs, 3—intemperance, 1—marasmus, 1—malignant pustule, 1—neuralgia, 1—premature birth, 1—scrofula, 1—smallpox, 0—suicide, 1—teething, 1—throat distemper, 1—tumor in uterus, 1—unknown, 2.
Under 5 years, 27—between 5 and 20 years, 7—between 20 and 40 years, 20—between 40 and 60 years, 16—above 60 years, 5. Born in the United States, 61—Ireland, 15—other places, 2.